

Remarks

The status of the application is as follows. Claims 1-30 are currently pending in the application. Claims 1-17 have been withdrawn from further consideration, pursuant to the restriction requirement discussed below. Remaining claims 18-30 are addressed herein.

The Examiner has rejected claims 19, 24, and 25 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner has rejected claims 18 and 20 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 3,539,408 to Cashau *et al.* (hereinafter, “Cashau”). The Examiner has rejected claims 18 and 20 under 35 U.S.C. §102(b) as allegedly being anticipated by R.G. Frieser, IBM Technical Disclosure Bulletin, *Etchability of Chromium Films*, Vol. 13, No. 4, Sept. 1970, (hereinafter, “Frieser”). The Examiner has rejected claim 30 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser. The Examiner has rejected claims 19 and 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over Cashau as applied to claims 18 and 20 above, in view of U.S. Patent No. 3,616,349 to Szupillo. The Examiner has rejected claims 19-22 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser as applied to claims 18 and 20 above, in view of Szupillo. The Examiner has rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over Casau as applied to claims 18 and 20 above, in view of U.S. Patent No. 3,630,795 to Innokent N. Vorie (hereinafter, “Vorie”). The Examiner has rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser as applied to claims 18 and 20 above, in view of Vorie. The Examiner has rejected claims 23-25, 28, and 29 under 35 U.S.C. §103(a) as allegedly being unpatentable over Casau as applied to claims 18 and 20 above, in

view of U.S. Patent No. 4,160,691 to Abolafia *et al.* (hereinafter, "Abolafia"). The Examiner has rejected claims 23-25, 28, and 29 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser as applied to claims 18 and 20 above, in view of Abolafia. Applicants respectfully traverse the rejections as follows.

Claims 26 and 27 are objected to as being dependent upon a rejected base claim (claim 18), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 26 has been amended herein in response to this objection. No new matter is believed added. Claim 27 depends from claim 26, and therefore is not amended herein in response to this objection. Applicants gratefully acknowledge Examiner's indication of allowable subject matter.

Response to Restriction Requirement

A provisional election was made, with traverse, to prosecute the invention of Group II, claims 18-30, drawn to a product, classified in class 420, subclass 8. Claims 1-17 have been withdrawn from further consideration. This election is made with traverse, and Applicant's hereby reserve the right to file a divisional application in connection with unelected claims 1-17, drawn to a method.

With regard to the Restriction Requirement, Applicant's respectfully submit that the subject matter of all claims 1-30 is sufficiently related that a thorough search for the subject matter of any one group of claims would encompass a search for the subject matter of the remaining claims. Thus, Applicant's respectfully submit that the search and the examination of the entire application could be made without serious burden. See MPEP § 803, in which it is

stated that “if the search and examination of the entire application can be made without serious burden, the Examiner must examine it on the merits” (emphasis added). Applicant’s respectfully submit that this policy should apply in the present application in order to avoid unnecessary delay and expense to Applicants and duplicative examination by the Patent Office.

35 U.S.C. §112

Claims 19, 24 and 25 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Examiner alleges that, regarding claim 19, it is unclear whether the chromium volume itself is an “oxide of chromium and metallic chromium” or whether the “oxide of chromium and metallic chromium” is a layer on top of the chromium volume. Claim 19 has been amended herein for clarification purposes only. No new matter is believed added.

Regarding claims 24 and 25, the Examiner alleges that there is insufficient antecedent basis for the limitation “the layer of conductive metal”. Claim 24 is amended herein for clarification purposes only. No new matter is believed added.

Claim 25 depends from claim 24, and therefore has not been amended in response to this rejection.

In view of the amendments made herein, Applicants respectfully request withdrawal of these 35 U.S.C. §112, second paragraph, rejections.

35 U.S.C. §102

The Examiner has rejected claims 18 and 20 under 35 U.S.C. §102(b) as allegedly being anticipated by Cashau. The Examiner alleges that Cashau discloses an electrical structure comprising a chromium volume (col. 3, lines 21-22); an iron-comprising body in continuous electrical contact with the chromium volume (col. 3, lines 43-50); and a hydrochloric acid solution in continuous contact with both the chromium volume and the iron-comprising body (col. 3, lines 72-73), wherein the chromium body is being etched at an etch rate (col. 3, lines 49-50).

Applicants respectfully disagree with the Examiner's analysis of Cashau. Cashau does not disclose each and every feature of Applicants' invention as claimed in claim 18. For example, Cashau does not disclose, *inter alia*, an "iron-comprising body". Rather, Cashau discloses the use of a "fine aluminum wire" (col. 3, line 44); and a "metallic wire" (col. 4, line 74) composed of a "catalytic metal" (col. 5, line 8). Cashau further states that these catalytic metals are metals "comprised of aluminum, tin, magnesium, zinc, cadmium, and alloys of these metals" (col. 5, lines 10-11). Since Cashau fails to include an iron-comprising body, or even the element iron, in this list, Cashau does not teach each and every feature of claim 18 as required by 35 U.S.C. §102(b). Applicants therefore urge withdrawal of this rejection.

Claim 20 is dependent on claim 18 and is therefore allowable for the same reasons.

The Examiner has also rejected claims 18 and 20 under 35 U.S.C. §102(b) as allegedly being anticipated by Frieser. The Examiner alleges that Frieser discloses an electrical structure comprising a chromium volume; an iron-comprising body in continuous electrical contact with

the chromium volume; and hydrochloric acid solution is in continuous contact with both the chromium volume and the iron-comprising body, wherein the chromium body is being etched at an etch rate (Abstract).

Applicants respectfully disagree with the Examiner's analysis of Frieser. Frieser does not disclose each and every feature of Applicants' invention as claimed in claim 18. For example, Frieser does not disclose, *inter alia*, an "iron-comprising body". Rather, Frieser discloses contacting a chromium film with aluminum metal (line 3). Since Frieser fails to mention an iron-comprising body, Frieser does not teach each and every feature of claim 18 as required by 35 U.S.C. §102(b). Applicants therefore urge withdrawal of this rejection.

Claim 20 is dependent on claim 18 and is therefore allowable for the same reasons.

35 U.S.C. §103

The Examiner has rejected claim 30 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser. The Examiner alleges that Frieser discloses an electrical structure comprising a chromium volume; an iron-comprising body in continuous electrical contact with the chromium volume; and hydrochloric acid solution is in continuous contact with both the chromium volume and the iron-comprising body, wherein the chromium body is being etched at an etch rate (Abstract).

Applicants respectfully disagree with the Examiner's analysis of Frieser. As discussed above, Frieser does not teach or suggest, *inter alia*, an "iron-comprising body" as claimed in independent claim 18, from which claim 30 depends. Rather, Frieser discloses contacting a chromium film with aluminum metal (line 3). Since Frieser fails to mention an iron-comprising

body, Frieser does not teach each and every feature of claim 18 as required by 35 U.S.C. §103(a). Applicants therefore urge withdrawal of this rejection.

The Examiner has rejected claims 19 and 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over Cashau as applied to claims 18 and 20 above, in view of Szupillo. Claims 19 and 22 depend from a base claim 18, and therefore are considered to incorporate the features of the base claim. As discussed above, Cashau does not teach or suggest an iron comprising body. Further, Szupillo discloses probes composed of “aluminum or zinc” (col. 2, line 46), or an inert material such as “platinum” (col. 3, line 3). Neither Cashau nor Szupillo teaches or suggests, *inter alia*, an iron comprising body as claimed in claim 18 from which claims 19 and 22 depend. Applicants therefore urge withdrawal of this rejection.

The Examiner has rejected claims 19-22 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser as applied to claims 18 and 20 above, in view of Szupillo. Neither Frieser nor Szupillo teaches or suggests, *inter alia*, an iron comprising body as claimed in claim 18 from which claims 19-22 depend. Applicants therefore urge withdrawal of this rejection.

The Examiner has rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over Casau as applied to claims 18 and 20 above, in view of Vorie. Neither Casau nor Vorie teaches or suggests, *inter alia*, an iron comprising body as claimed in claim 18 from which claim 21 depends. Applicants therefore urge withdrawal of this rejection.

The Examiner has rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser as applied to claims 18 and 20 above, in view of Vorie. Neither Frieser nor Vorie teaches or suggests, *inter alia*, an iron comprising body as claimed in claim 18 from which claim 21 depends. Applicants therefore urge withdrawal of this rejection.

The Examiner has rejected claims 23-25, 28, and 29 under 35 U.S.C. §103(a) as allegedly being unpatentable over Casau as applied to claims 18 and 20 above, in view of Abolafia. Neither Casau nor Abolafia teaches or suggests, *inter alia*, an iron comprising body as claimed in claim 18 from which claims 23-25, 28, and 29 depend. Applicants therefore urge withdrawal of this rejection.

The Examiner has rejected claims 23-25, 28, and 29 under 35 U.S.C. §103(a) as allegedly being unpatentable over Frieser as applied to claims 18 and 20 above, in view of Abolafia. Neither Frieser nor Abolafia teaches or suggests, *inter alia*, an iron comprising body as claimed in claim 18 from which claims 23-25, 28, and 29 depend. Applicants therefore urge withdrawal of this rejection.

Allowable Subject Matter

Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants gratefully acknowledge the Examiner's indication of allowable subject matter.

Conclusion

Accordingly, based on the preceding arguments, Applicants respectfully submit that claims 18-37, and the entire application, are in condition for allowance and therefore request favorable action. However, should the Examiner believe anything further is necessary in order to place the application in better condition for allowance, or if the Examiner believes that a telephone interview would be advantageous to resolve the issues presented, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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Identification of Amended Material**In the Claims:**

Please cancel claims 1-17, which have been withdrawn from consideration.

Please amend claims 19, 24 and 26 as follows:

1 19. (Amended) The electrical structure of claim 18, wherein the electrical structure further
2 comprises a chromium oxide layer on the chromium volume [volume includes an oxide of
3 chromium and metallic chromium].

1 24. (Amended) The electrical structure of claim 23 [18], wherein the acid solution is not in
2 contact with the layer of conductive metal.

1 26. (Amended) An electrical structure, comprising:
2 a chromium volume;
3 an iron-comprising body in continuous electrical contact with the chromium volume; and
4 an acid solution in continuous contact with both the chromium volume and the iron-
5 comprising body, wherein the chromium body is being etched at an etch rate; and
6 [The electrical structure of claim 18, further comprising] a layer of conductive metal,
7 wherein the chromium volume includes a layer of chromium, wherein the layer of conductive

8 metal is on the layer of chromium, wherein the conductive metal includes an opening extending
9 through its thickness, wherein the opening exposes the layer of chromium, wherein the iron-
10 comprising body is in continuous electrical contact with the chromium volume, and wherein the
11 acid solution is in contact with both the iron-comprising body and the chromium volume within
12 the opening.